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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/923,386	08/08/2001	Yasuo Wada	0229-0656P	2324

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BIRCH STEWART KOLASCH & BIRCH  
PO BOX 747  
FALLS CHURCH, VA 22040-0747

EXAMINER

FISCHER, JUSTIN R

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 03/05/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/923,386

Applicant(s)

WADA, YASUO

Examiner

Justin R Fischer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 August 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Priority*

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on August 22, 2000. It is noted, however, that applicant has not filed a certified copy of the Japanese application as required by 35 U.S.C. 119(b).

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 4, the claim contains the following language in line 2: "a radial distance (K) of the radially inner end (FD) from the radially outer end (BU) of the bead core...". This language fails to describe which "radially inner end" is being described. It is suggested that the claim be amended as follows: a radial distance (K) of the radially inner end (FD) of the reinforcing cord layer from the radially outer end (BU) of the bead core...

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tokutake (US 5,117,886). As best depicted in Figure 1, Tokutake is directed to a pneumatic tire comprising a tread portion, a pair of sidewall portions, a pair bead portions each with a bead core and a bead apex therein, a carcass structure having at least one carcass ply that is turned up around said bead portions, and at least one reinforcing cord layer that is disposed axially inward of the carcass turnup portions (Column 1, Lines 37-68). In this instance, (a) the radially outer end of said at least one reinforcing cord layer is radially outward of the bead apex and radially inward of the maximum tire section width point and (b) the radially inner end of said at least one reinforcing cord layer is radially outward of the radially outer surface of the bead core and radially inward of the bead apex. Regarding the specific locations of the reinforcing cord layer and the bead apex, Tokutake suggests the following: radially outer end of reinforcing cord layer (Q) is 0.4-0.6 times the tire section height (J) and bead apex (N) is 0.25-0.4 times tire section height (J). Based on these ranges and the figures of Tokutake, one of ordinary skill in the art at the time of the invention would have found it obvious to form the tire of Tokutake such that the length of the bead apex and the reinforcing cord layer satisfy the broad ranges of the claimed invention, as further detailed below.

Regarding claims 1-6, it is initially noted that distances Q and N described by Tokutake are "radial distances" measured from the bead heel line while the parameters of the claimed invention represent the "lengths" of the respective tire components. In any event, the claim only requires a relationship between the length of the bead apex

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and the length of the reinforcing cord layer (length of reinforcing cord layer is 1.2-2.5 times length of bead apex). One of ordinary skill in the art at the time of the invention would have readily appreciated the broad, quantitative relationship of the claimed invention since (a) the reinforcing cord layer extends significantly beyond the bead apex, as set forth above, and (b) the radially inner ends of the reinforcing cord layers are described as being located "slightly" away from the bead ring (Column 4, Lines 51-60). Thus, the reference is directed toward a plurality of embodiments in which the reinforcing cord layer has a greater length than the bead apex since one would have expected the axial extension of the reinforcing cord layer beyond the bead apex to be greater than the "slight" difference between the inner end of the reinforcing cord layer and the inner end of the bead apex. As such, one of ordinary skill in the art at the time of the invention would have readily appreciated a plurality of embodiments in which the broad, quantitative relationship of the claimed invention is satisfied. Lastly, the narrower limitation defined by claim 5 (1.5 to 1.8 times length of bead apex) would have been obvious in view of the plurality of embodiments described by Tokutake, particularly the radial extension of the reinforcing cord layer between 0.40 and 0.60 times the tire section height and the radial extension of the bead apex between 0.25 and 0.45 times the tire section height.

Regarding the length of the bead apex, Tokutake suggests a radial height for the bead apex between 0.25 and 0.4 times the tire section height J. This radial height, however, includes the distance from the bead heel line to the radially outer surface of the bead core. Thus, the range for the radial height of the bead apex (not apex and

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core) in Tokutake is less than the aforementioned range, suggesting that a plurality of embodiments in Tokutake have a bead apex length in accordance to the limitations of the claimed invention.

With respect to the minimum and maximum sidewall thickness, Tokutake clearly depicts a large sidewall thickness in the region where the rim flange and the reinforcing cord layer overlap. One of ordinary skill in the art at the time of the invention would expect such a tire design, as depicted in Figure 1, to have a minimum sidewall thickness (around maximum section width point) that is less than the maximum sidewall thickness in the lower sidewall region.

Regarding claim 2, Tokutake describes the use of at least one carcass ply (Column 1, Lines 37-45).

Regarding claim 3, one of ordinary skill in the art at the time of the invention would have readily appreciated a separation between the outer end of the reinforcing cord layer and the bead apex not less than 10.0 millimeters in view of the ranges of Tokutake. In particular, the one example of Tokutake describes a separation that is equal to 10 millimeters, wherein the height of the reinforcing cord layer is 0.48 times the section height and the bead apex is 0.39 times the tire section height (Column 5, Lines 40-50). In view of the suggestion by Tokutake to vary the outer end of the reinforcing cord layer between 0.40 and 0.60 times the tire section height, a separation greater than 10.0 millimeters would have been readily appreciated by one of ordinary skill in the art at the time of the invention.

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With respect to claim 4, applicant defines a broad range to describe the separation between the reinforcing cord layer and the bead core (inner end of bead apex). In particular, the lower values of this range are extremely small and define possible distances on the order of approximately 2 to 3 millimeters. One of ordinary skill in the art at the time of the invention would have found it obvious to satisfy the quantitative relationship in view of the suggestion by Tokutake to provide a slight separation and the embodiment depicted by Tokutake in Figure 1.

Regarding claim 6, as stated above, the maximum thickness occurs at a position that is slightly radially inward of the bead apex (claim requires "near" bead apex), while the minimum thickness occurs at a position that is approximately at the maximum section width point.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tamano (US 5,479,977), Ohkuni (US 4,773,462), Nakasaki (JP 7-156611), Yotsumoto (JP 9-48219), and Niwa (JP 11-263105) are direct to pneumatic tire constructions having a reinforcing cord layer disposed axially between a bead apex and a carcass turnup portion, wherein the reinforcing cord layer extends radially outward of the bead apex. In particular, Tamano, Ohkuni, Yotsumoto, and Niwa expressly depict the radially inner end of the reinforcing cord layer as being radially outward of the inner end (radial) of the bead apex, as required by the claimed invention.

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Justin R Fischer** whose telephone number is **(703) 605-4397**. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball can be reached on (703) 308-2058. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

  
Justin Fischer

February 28, 2003

  
Michael W. Ball  
Supervisory Patent Examiner  
Technology Center 1700